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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/749,853

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Alexander A. Maltsev

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EXAMINER

JAIN, RAJ K

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

04/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/749,853	Applicant(s) MALTSEV ET AL.	
	Examiner RAJ K. JAIN	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2616

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bohnke et al (US 2002/0102940 A1).

Regarding claim(s) 1, 10, 12, 15, 16 & 18 Bohnke discloses an OFDM system (Fig. 1, abstract) comprising:

an adaptive bit loading block (Fig. 4) to receive channel state information for a plurality of subcarriers and to select a modulation scheme and a puncturing pattern for each of the plurality of subcarriers or for each of a plurality of subbands based on the channel state information (Claim 1, paras 12 and 38, modulation scheme is selected for each of the subcarriers and applying a puncturing pattern within blocks 3 and 4 (Fig. 4));

a puncturing block (Figs. 1 & 4, puncturing blocks P1, P2) to puncture a coded bit stream for each of a plurality of subcarriers or subbands in accordance with the selected puncturing pattern (para 12, a puncturing pattern is obtained based on desired code rate);

a mapping block (Figs . 1 & 4) to map a coded and punctured bit stream output from the puncturing block to one or more subcarrier symbols for each of the plurality of subcarriers or subbands (para 12, mapping block 7 map the coded bit stream and output to symbol generator 26).

Regarding claim(s) 2, 3, Bohnke discloses an encoder coupled to the puncturing block to produce the encoded bit stream (Fig. 1, ref. 2, para 12).

Regarding claim(s) 4, Bohnke discloses subbands comprises a plurality of subcarriers (general spec).

Regarding claim(s) 5 & 14, Bohnke discloses mapping block 7 to map a coded and punctured bit stream output from the puncturing block to one or more OFDM subcarrier symbols (Fig. 4) for each of a plurality of OFDM subcarriers (para 12 mapping block 7 map the coded bit stream and output to symbol generator 26).

Regarding claim(s) 6, 7 & 11, Bohnke discloses OFDM modulator to modulate a selected subcarrier symbol onto a OFDM subcarrier for each of a plurality of OFDM subcarriers (Figs. 1 & 4, modulation is done by the bit mapping block and than forwarded to OFDM generator 26, paras 1-3).

Regarding claim(s) 8, 9 & 17, Bohnke discloses a puncturing pattern and/or modulation scheme are selected such that one or more sets of output coded bits in a puncturing pattern may map onto one subcarrier or one subband (para 35, link adaptation 17 (Fig. 3) selects suitable modulation scheme).

Regarding claim(s) 13, Bohnke discloses a puncturing block to puncture a coded bit stream for each of a plurality of subcarriers (Figs. 1 & 4, puncturing blocks P1, P2).

Response to Arguments

Applicant's arguments filed February 5, 2008 have been fully considered but they are not persuasive.

First off applicant has failed to address the issue of improper Abstract content and is therefore reminded once again to provide a corrected abstract content or provide appropriate reasoning against such submission.

With respect to claim 1, Applicant contends the cited art fails to disclose “choosing a puncturing pattern based upon channel state information.”

Examiner respectfully disagrees, Bohanke discloses adaptive subcarrier loading signaling scheme (see abstract) which utilizes a puncturing pattern based on specific mode dependent parameters (Table 1) where the “appropriate mode is selected by a link adaptation scheme” or channel state (Para 10). Applicant defines “Channel state” as (Para 23 in specifications) “*Channel state information may include a signal-to-noise ratio (SNR), a bit error rate (BER), a packet error rate, a channel estimate or channel transfer function, etc., or other information that may describe a channel transmission condition.*” Bohanke explicitly discloses that the modulation scheme on each subcarrier is selected depending on the **channel transfer function** (emphasis added) on the subcarrier (paras 38, 52 & 65), to which Applicant also concedes that Bohanke discloses “modulation scheme depending on the channel transfer function on the subcarrier and further Bohanke discloses puncturing steps P1 and P2 (page 9 of arguments). Thus the Examiner asserts that given a specific channel transfer function (Paras 112-121, 125-140) a modulation scheme is selected for a subcarrier whereby the modulation scheme is arrived at by choosing an appropriate puncturing pattern (Table 1, paras 11-12) which is based on the channel transfer function originally chosen. Thus Bohanke does disclose “choosing a puncturing pattern based upon channel state information.”

Thus based on above reasoning, Examiner asserts that Bohanke discloses all limitations of claim 1 and therefore the rejection of claim 1 is properly sustained.

Furthermore with respect to claims 2-9 which depend from claim 1 are also properly rejected under Bohanke and therefore the rejections to claims 2-9 is sustained.

Claims 10, 12, 15 and 18 recite features similar to those recited in claim 1 which are also anticipated by Bohanke and therefore the rejection to claims 10, 12, 15 and 18 is sustained. Furthermore, claims 11, 14, 16 and 17 which depend from 10, 12, 15 and 18 respectively are also anticipated by Bohanke and therefore the rejection to claims 11, 14, 16 and 17 is sustained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAJ K. JAIN whose telephone number is (571)272-3145. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raj K. Jain/

Primary Examiner, Art Unit 2616

April 14, 2008